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Rossi

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- (54) **TOOTHBRUSH IDENTIFIER**
- (76) Inventor: **Martin Rossi**, Hollywood, FL (US)
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A46B 15/00 (2006.01)
- (52) **U.S. Cl.**
CPC *A46B 15/00* (2013.01)
USPC **40/314; 40/501**
- (58) **Field of Classification Search**
USPC 40/661.12, 501, 314; 116/315
See application file for complete search history.

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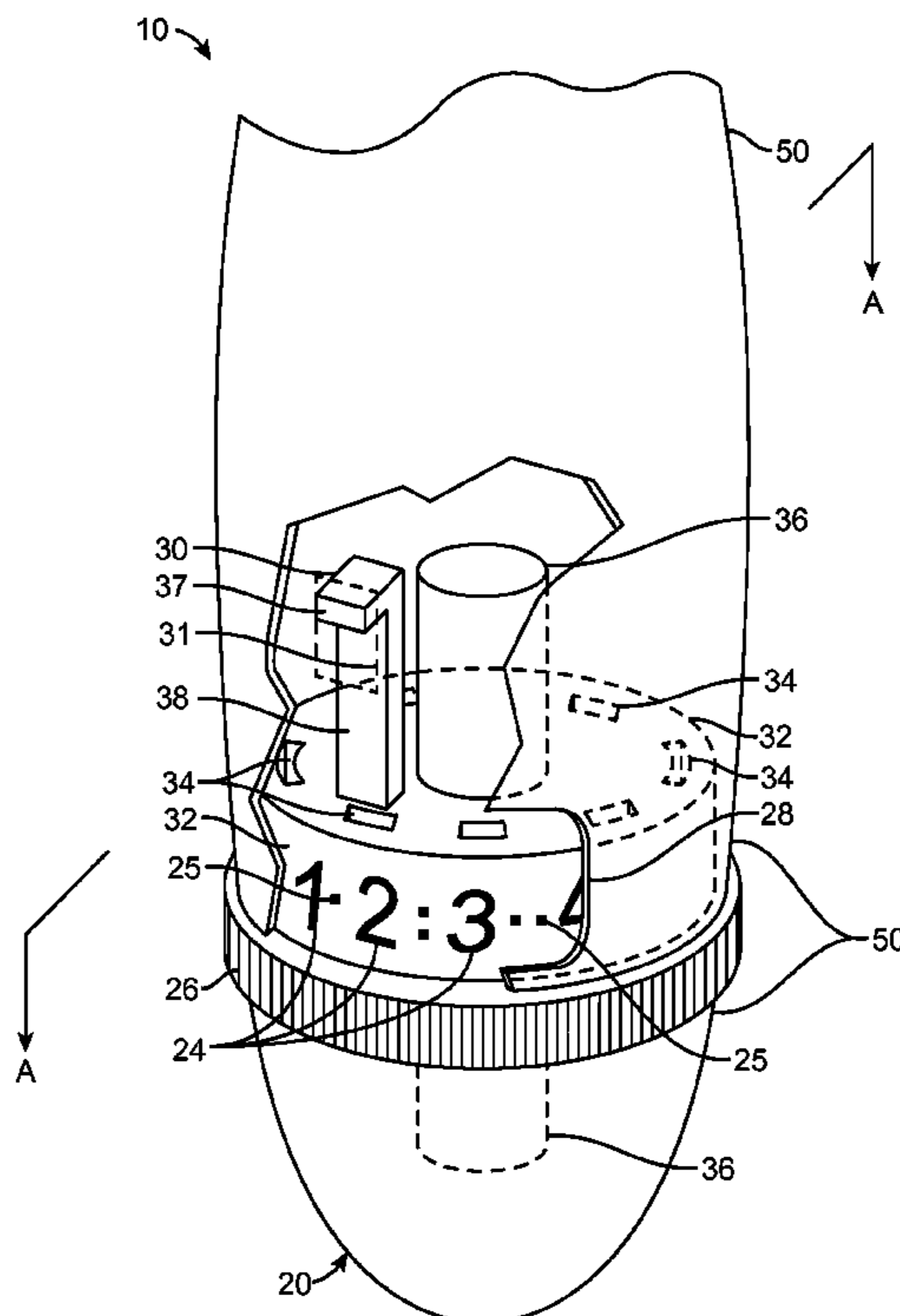
Primary Examiner — Joanne Silbermann
(74) *Attorney, Agent, or Firm* — Robert C. Montgomery;
Montgomery Patent & Design

(57) **ABSTRACT**

A toothbrush has an integral identification system for distinguishing one (1) toothbrush from another. At the bottom of the toothbrush handle is a cylinder and rotating thumb wheel assembly. The cylinder has a plurality of indicia which are visible one (1) at a time through a window on the side of the brush handle. A user rotates the thumb wheel to display an individual indicium. Once selected, a locking pin mechanism prevents the cylinder from being accidentally turned. These features allow multiple users to distinguish their toothbrush from another's by verifying the displayed indicia. Alternative embodiments can be retrofit and/or replaced on a toothbrush handle.

9 Claims, 5 Drawing Sheets

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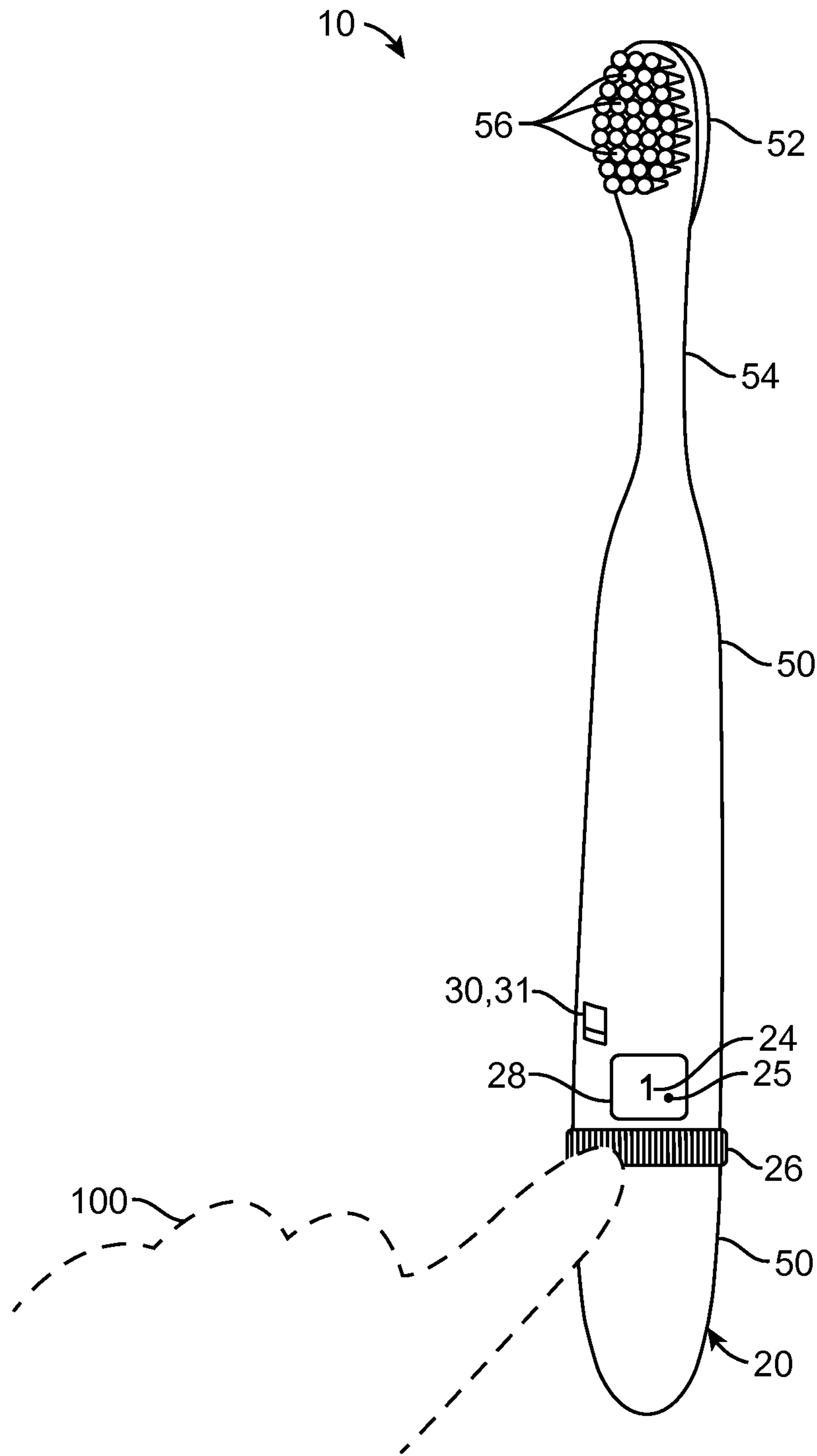


FIG. 1

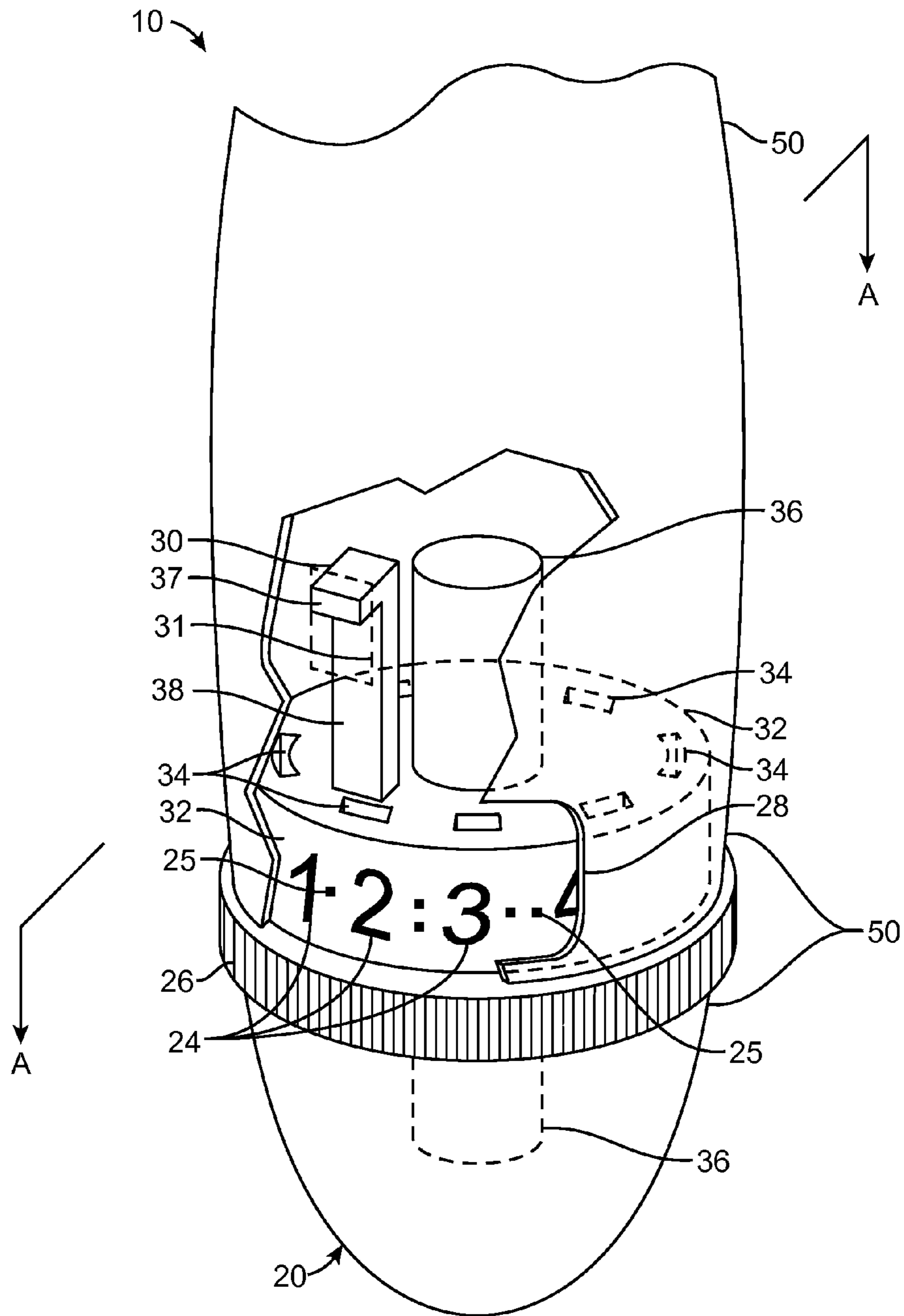


FIG. 2

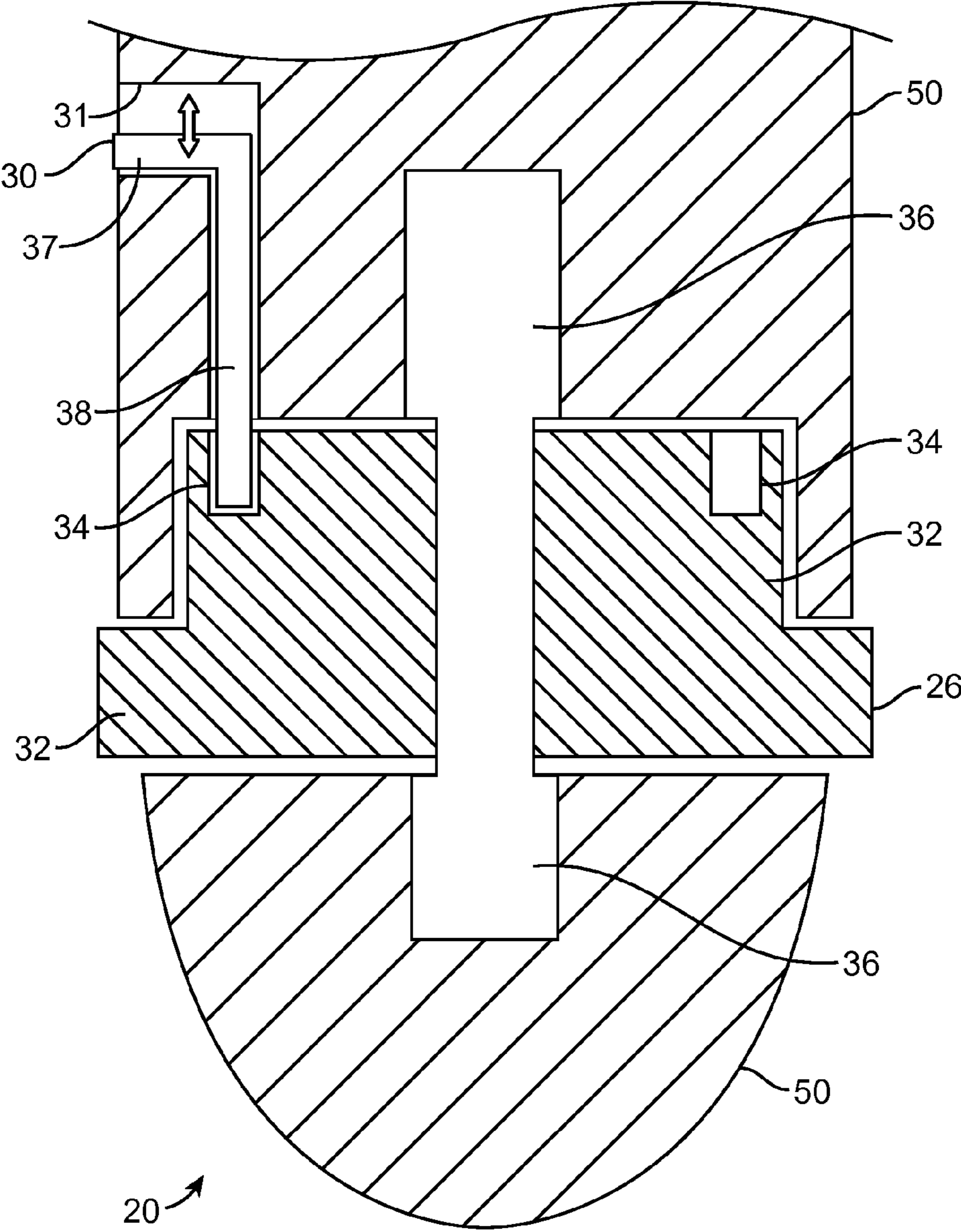


FIG. 3

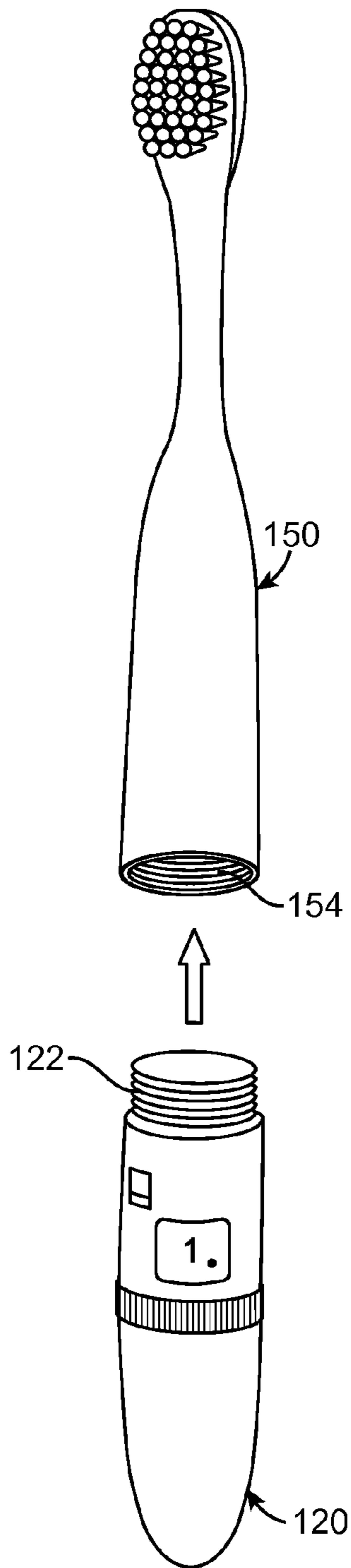


FIG. 4

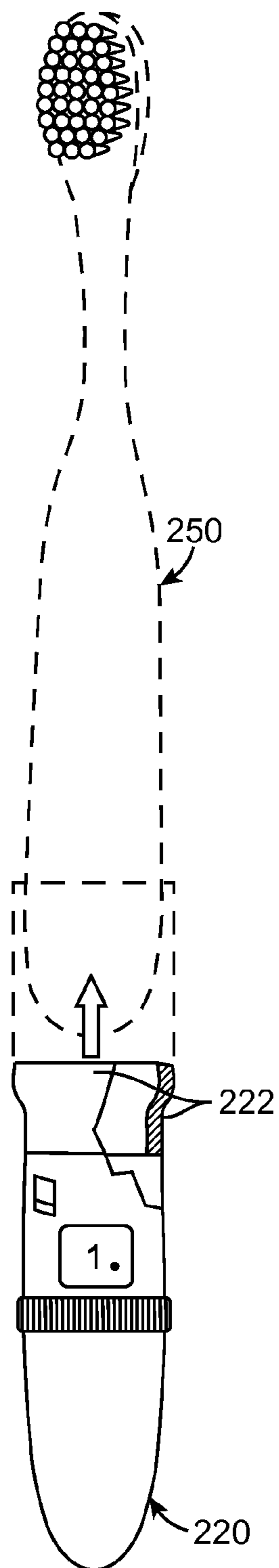


FIG. 5

1**TOOTHBRUSH IDENTIFIER**

RELATED APPLICATIONS

There are currently no applications co-pending with the present application.

FIELD OF THE INVENTION

The presently disclosed subject matter is directed towards oral hygiene devices. More particularly, the present invention relates to identifiers for toothbrushes.

BACKGROUND OF THE INVENTION

The benefits of brushing one's teeth are well known to all. Brushing removes food particles and plaque on one's teeth while keeping one's mouth and breath fresh. The common toothbrush is a great tool for performing such a task provided that it is periodically replaced. However, it is during this replacement that confusion often results, especially in bathrooms with multiple users. Spouses, siblings and other relatives typically share a common spot to store all of their toothbrushes. As the various toothbrushes are replaced and colors of the toothbrushes are changed, it is a common occurrence to use someone else's toothbrush by mistake. Not only is such action unsavory on the part of both people, but such action can spread disease and illness as well.

Accordingly, there exists a need for a means by which one's own toothbrush can be easily identified amongst others in order to avoid using the wrong toothbrush.

SUMMARY OF THE INVENTION

The principles of the present invention provide for a toothbrush identifier which provides a toothbrush with an integral but changeable identification system useful for identifying one's toothbrush from others.

The present invention is a toothbrush having a conventional plastic handle and a conventional bristle head. The lower portion of the handle is provided with a cylinder that rotates around the exterior of the toothbrush handle. The cylinder includes indicia such as sequential numbers, letters, graphic symbols or the like which are visible, one at a time, through a vision window on the side of the brush handle. A user can set the indicia when removing the toothbrush from its packaging. Once set, a detent mechanism prevents it from accidentally turning. These features allow multiple users, even those with the same color and style of toothbrush, to easily determine their toothbrush from others by verifying their selected number, letter, or graphic symbol. At the end of its useful life, the invention is simply discarded and a new one takes its place.

BRIEF DESCRIPTION OF THE DRAWINGS

The advantages and features of the present invention will become better understood with reference to the following more detailed description and claims taken in conjunction with the accompanying drawings in which like elements are identified with like symbols and in which:

FIG. 1 is a front view of a toothbrush with identifier mechanism **10** according to a preferred embodiment of the present invention;

FIG. 2 is a partial cut-away view of the toothbrush with identifier mechanism **10** shown in FIG. 1;

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FIG. 3 is a section view taken through a locking mechanism **20** of the toothbrush with identifier mechanism **10** shown in FIG. 1 and FIG. 2;

FIG. 4 is a front view showing a threaded identification mechanism **120** according to an alternate embodiment of the present invention; and,

FIG. 5 is a front view of a retrofittable identification mechanism **250** according to another alternate embodiment of the present invention.

DESCRIPTIVE KEY

10 toothbrush with identifier mechanism

20 identification mechanism

24 indicia

25 Braille feature

26 thumb wheel

28 viewing aperture

30 locking pin

31 slot

32 cylinder

34 locking aperture

36 post

37 horizontal portion

38 vertical portion

50 handle

52 head

54 neck

56 bristle bundle

100 user

120 threaded identification mechanism

122 male threaded region

150 replaceable handle

154 female threaded region

220 retrofittable identification mechanism

222 friction boot

250 existing toothbrush

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The best mode for carrying out the invention is presented in terms of its preferred embodiment, is depicted in FIGS. 1 through 3 and alternate embodiments are shown in FIG. 4 and FIG. 5, and a person skilled in the art will appreciate that many other embodiments of the invention are possible without deviating from the basic concept of the invention, and that any such work around will also fall under scope of this invention. It is envisioned that other styles and configurations of the present invention can be easily incorporated into the teachings of the present invention, and only one particular configuration shall be shown and described for purposes of clarity and disclosure and not by way of limitation of scope.

The terms "a" and "an" herein do not denote a limitation of quantity, but rather denote the presence of at least one of the referenced items.

The present invention relates to a toothbrush **10** having a mechanism that identifies an individual user's **100** personal toothbrush from others. The features of the toothbrush **10** allow multiple users **100**, even those utilizing toothbrushes with an identical color and/or style, to easily identify their own toothbrush via individually selected indicium **42**.

Refer now to FIG. 1, which is a front view of the toothbrush **10** according to a preferred embodiment of the present invention. The toothbrush **10** functions similar to a conventional toothbrush. It has a plastic handle **50** that tapers down along a slightly angular plastic neck **54** to a head **52** with a plurality of

embedded bristle bundles **56**. It should be understood that the toothbrush **10** may take the form of a variety of different toothbrush styles having different shaped handles **50**, various colors and patterns, differently sized and shaped heads **52**, various patterns of bristles **56**, and the like, without deviating from the teachings of the invention. Therefore, the embodiment illustrated in FIG. **1** should not be interpreted as a limiting factor of the toothbrush **10**.

Referring now to FIG. **1** and FIG. **2**, the toothbrush **10** includes an integral identification mechanism **20** that is integrated into a lower portion of the handle **50**. The integral identification mechanism **20** comprises an internal cylinder **32** that can be selectively rotated via an integrally-molded thumb wheel **26**. The cylinder **32** has a plurality of unique molded-in and protruding indicium **24** that are envisioned as comprising sequential numerals which range from one (1) to ten (10) or some other such identification. Each indicium **24** may be individually observed one (1) at a time through a stationary viewing aperture **28** that is located along a front surface of the handle **50**.

The indicia **24** are envisioned as being accompanied by corresponding molded-in Braille features **25**, thereby enabling blind or visually impaired individuals to utilize the toothbrush **10** or to allow use in low light levels. It is understood that the indicia **24** may also comprise other symbols such as, but not limited to: sequential letters, graphic symbols, or the like, and as such should not be interpreted as a limiting factor of the toothbrush **10**.

Referring now to FIGS. **2** and **3**, respectively partial cut-away and section views of the locking mechanism **20**. A user **100** rotates the thumb wheel **26** to select a specific indicium **24**. Once the indicium **24** is selected, a locking mechanism **30** prevents the cylinder **32** from being rotated and the selected indicium **24** from being accidentally changed.

The locking mechanism **20** provides a mechanism to select and lock a particular indicium **24** in place to be viewed through the viewing aperture **28** for unique identification of a user's **100** toothbrush. The locking mechanism **20** uses the thumb wheel **26**, the viewing aperture **28**, a locking pin **30**, a slot **31**, the cylinder **32**, and a locking aperture **34**. The bottom of the handle **50** comprises a round cross-section containing the cylinder **32**, which is rotated around a vertical post **36** that is located inside the handle **50** along a vertical centerline.

The post **36** has a "dumbbell" shape with a recessed center section onto which the cylinder **32** rotates. The cylinder **32** includes the thumb wheel feature **26** which extends around a lower surface of the handle **50** and a plurality of equally-spaced locking apertures **34** that are arranged along an upper surface of the cylinder **32**. The apertures **34** enable locking the cylinder **32** in position via engagement of the locking pin **30**. The thumb wheel **26** protrudes outwardly slightly beyond the outer surface of the handle **50**. It is envisioned that the post **36** and the cylinder **32** provide "clicking" features or a slight relative friction to provide a slight resistance to turning, thereby providing a user **100** with a degree of rotational control during selection and locking of the desired indicium **24**. The thumb wheel **26** beneficially has a knurled surface to enable easy rotation of the cylinder **32** to select a desired indicium **24** to be viewed in the aperture **28**.

The locking pin **30** is an inverted "L"-shaped member that is positioned in and guided along a slot **31** in the outer surface of the handle **50**. The "L"-shaped locking pin **30** can take a horizontal portion **37** and a vertical portion **38**. The horizontal portion **37** provides a small sliding feature that is flush with the outer surface of the handle **50** to allow a user **100** to move the locking pin **30** vertically to selectively lock or release the rotary motion of the cylinder **32**. With the locking pin **30**

raised; the cylinder **32** can be rotated using the thumb wheel **26** to move a desired indicium **24** into the aperture **28**. Sliding the locking pin **30** down by moving the horizontal portion **37** down results in engagement of the vertical portion **38** with one of the locking apertures **34** of the cylinder **32**. Such engagement corresponds to the desired indicium **24** being located in the aperture **28**.

Referring now to FIG. **4**, which is a front view of an alternate threaded identification mechanism **120** that enables replacement of a handle **150**. Such an identification mechanism **120** can greatly extend the useful life of the threaded identification mechanism **120**. The alternate threaded identification mechanism **120** is similar in construction and functionality to the previously described preferred identification mechanism **20**; however, the threaded identification mechanism **120** has a male threaded region **122** along an upper edge. This male threaded region **122** enables periodic replacement of the handle **150** having a mating female threaded region **154** when the handle portion **150** becomes worn.

FIG. **5** presents a front view of a retrofit identification mechanism **220** that is in accord with yet another embodiment of the present invention. The retrofit identification mechanism **220** provides a mechanism for attachment to an existing toothbrush **250** via an integral friction boot **222** that is located along a top edge. The retrofit identification mechanism **220** is similar in construction and functionality to the previously described preferred identification mechanism **20**; however, the retrofit identification mechanism **220** has the friction boot **222** which is a flexible tubular rubber or latex appendage that protrudes up from an upper end. The friction boot **222** is capable of being stretched and inserted over a bottom end of an existing toothbrush **250**. The retrofit identification mechanism **220** provides a means of repeated usage on a plurality of toothbrushes **250**, thus extending the useful life of the retrofit identification mechanism **220**.

It is envisioned that other styles and configurations of the present invention can be easily incorporated into the teachings of the present invention, and while only three particular configurations are shown and described for purposes of clarity and disclosure such is not by way of limitation of scope.

The preferred embodiment of the present invention can be utilized by the common user in a simple and effortless manner with little or no training. After initial purchase or acquisition of the device **10**, it would be configured as in FIG. **1**. The method of utilizing the preferred embodiment of the device **10** may be achieved by performing the following steps: procuring a model of the device **10** having a desired shaped, color handle **50**, head **52** size, pattern of bristles **56**, and the like; selecting a desired indicium **24** by sliding the locking pin **30** upward using a fingernail or small tool; rotating the cylinder **32** using the thumb wheel **26** until observing a desired indicium **24** within the viewing aperture **28**; sliding the locking pin **30** down to lock the position of the cylinder **32** and selected indicium **24**; using the device **10** in a similar manner as a normal toothbrush; and benefiting from individual identification of a user's **100** toothbrush.

The method of using the alternate embodiment threaded identification mechanism **120** is as follows: using the threaded identification mechanism **120** and attached replaceable handle **150** in a similar manner to a normal toothbrush until the replaceable handle **150** is worn; removing the replaceable handle **150** by unscrewing the male **122** and female **154** threaded regions; screwing the threaded identification mechanism **120** onto a new handle **150**; selecting and securing the desired indicium **24** as described above; and, resuming normal use of the alternate threaded embodiment **120**, **150**.

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The method of utilizing the alternate retrofittable identification mechanism **220** is as follows: using the retrofittable identification mechanism **220** and existing toothbrush **250** in a similar manner as a normal toothbrush until the existing toothbrush **250** is worn and needs to be replaced; removing the existing toothbrush **250** by stretching the friction boot **222** of the retrofittable identification mechanism **220** out and removing the worn existing toothbrush **250**; inserting the retrofittable identification mechanism **220** on a bottom handle of a new toothbrush **250**; selecting and securing the desired indicium **24** as described above; and, resuming normal use of the alternate retrofittable embodiment **220, 250**.

The foregoing descriptions of specific embodiments of the present invention have been presented for purposes of illustration and description. They are not intended to be exhaustive or to limit the invention and method of use to the precise forms disclosed. Obviously many modifications and variations are possible in light of the above teaching. The embodiment was chosen and described in order to best explain the principles of the invention and its practical application, and to thereby enable others skilled in the art to best utilize the invention and various embodiments with various modifications as are suited to the particular use contemplated. It is understood that various omissions or substitutions of equivalents are contemplated as circumstance may suggest or render expedient, but is intended to cover the application or implementation without departing from the spirit or scope of the claims of the present invention.

What is claimed is:

1. A toothbrush, comprising:

a handle having a vertical post extending along a centerline, and a horizontal portion and a vertical portion that form a "L" shaped slot within said handle;

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an integral identification mechanism having a cylinder with a plurality of indicia and a plurality of vertically extending apertures and which rotates on said vertical post, said identification mechanism for selecting one indicium from said plurality of indicia;

an "L" shaped locking pin within said "L" shaped slot;

a head having a plurality of toothbrush bristles; and,

a neck connecting said handle to said head;

wherein said "L" shaped locking pin selectively engages with a selected aperture of said vertically extending apertures to prevent said cylinder from turning.

2. The toothbrush according to claim 1, wherein said identification mechanism further includes a viewing aperture for viewing said indicium.

3. The toothbrush according to claim 2, wherein said viewing aperture is located on a front surface of said handle.

4. The toothbrush according to claim 1, wherein said cylinder further includes a user accessible thumb wheel for selecting said indicium.

5. The toothbrush according to claim 4, wherein said identification mechanism further includes a locking mechanism that prevents said cylinder from being rotated and said indicium from being changed.

6. The toothbrush according to claim 4, wherein said thumb wheel has a knurled surface.

7. The toothbrush according to claim 1, wherein said identification mechanism is molded into said handle.

8. The toothbrush according to claim 1, wherein said plurality of indicia includes a sequence of numerals.

9. The toothbrush according to claim 1, wherein said plurality of indicia includes Braille features.

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